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(71) **Applicant (for all designated States except US): THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA [US/US];** 3160 Chestnut Street, Suite 200., Philadelphia, PA 19104 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CHOI, Hoon**

[—/US]; 275 S. Bryn Mawr Avenue, #K47, Bryn Mawr, PA 19010 (US). CHEN, I-Wei [US/US]; 801 Yale Avenue, Apt. #430, Swarthmore, PA 19081 (US).

(74) Agent: **MCCONATHY, Evelyn, H.**; Dilworth Paxson, LLP, 3200 Mellon Bank Center, 1735 Market Street, Philadelphia, PA 19103 (US).

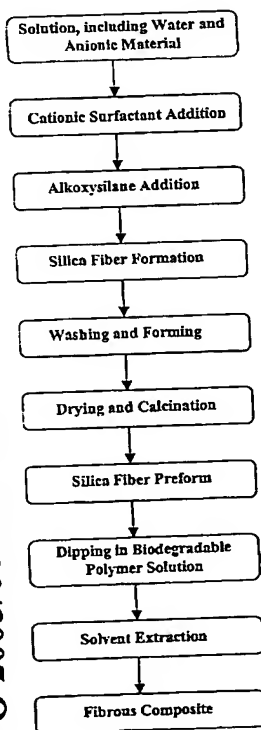
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[Continued on next page]

(54) Title: FIBROUS COMPOSITE FOR TISSUE ENGINEERING

**(57) Abstract:** Provided are fibrous composites prepared by methods of the present invention, comprising oxides and biodegradable polymers, in which the fibers are made of aerogel-like oxide materials having nanometer-sized pores. The fibrous composition advantageously has, at least, the following characteristics: (i) a very high nanoporous surface area, which also permits nucleation of crystallites; (ii) mesoporous / macroporous interspatial networks between the fibers, providing high bioactivity and a high transport rate; (iii) macropores for natural bone-like tissue growth; (iv) good mechanical properties for handling and for implant support; and (v) biodegradability for implant dissolution and time-variable mechanical properties. Further provided are methods for using the bioactive biodegradable fibrous composites as osteogenic composite materials for tissue engineering, tissue re-growth, bone implants, and bone repair, and/or for the delivery of drugs or therapeutic compounds.



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ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
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**B. FIELDS SEARCHED**Minimum documentation searched (classification system followed by classification symbols)  
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,261,679 A (CHEN et al) 17 July 2001 (17.07.2001), see entire document.	1-25

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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Mail Stop PCT, Attn: ISA/US  
Commissioner of Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Carlos A. Azpuro  
Telephone No. 703-308-1235